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A WEEK AFIELD IN SOUTHERN ARIZONA

By F. C. WILLARD

WITH SEVEN PHOTOS BY THE AUTHOR

AS DISTANT fields look the greenest, so the giant mesquites and sahuaros in the vicinity of Tucson seemed more inviting than the forests of the Huachuca Mountains where I was collecting rather unsuccessfully at the time. Consequently, on May 20, 1911, I set out with my Mexican moso, George. We left Berner's in Ramsay Canyon at six A. M. and, as the machine ran well, were thirty-two miles on our journey by nine o'clock in spite of some very rough going. At this point a defective transmission gear broke and we began repairs. I will not inflict on the reader the way we passed the balance of the day. A sixteen mile walk, a luckily found telephone and some accommodating friends from Tombstone furnished a new gear and at 7:30 that evening we were on our way once more.

We had had little chance to look for birds but saw a few. Scorched Horned Larks (*Otocoris alpestris adusta*) were very numerous and evidently nesting. I saw one carrying grass and found its partially completed nest. While walking to secure assistance I also found a nest of the White-necked Raven (*Corvus cryptoleucus*) containing seven fresh eggs. The nest was placed in a tall yucca standing out on the mesa. Farther on I encountered some full grown young Western Horned Owls (*Bubo virginianus pallescens*) in a grove of giant cottonwoods. They appeared to have been raised in an old hawk's nest in the top of one of the trees. Here I also met the Vermilion Flycatcher (*Pyrocephalus rubinus mexicanus*), Ash-throated Flycatcher (*Myiarchus cinerascens*), Lucy Warbler (*Vermivora luciae*), Sonora Yellow Warbler (*Dendroica aestiva sonorana*), Western Kingbird (*Tyrannus verticalis*), Say Phoebe (*Sayornis sayus*), White-winged Dove (*Melopelia asiatica*), Mourning Dove (*Zenaidura macroura carolinensis*), Mexican Ground Dove (*Chaemepelia p. pallescens*), and Desert Sparrow Hawk (*Falco sparverius phalaena*).

We spent the night at the Empire ranch, getting there after dark with but forty miles of our trip completed. We camped under a small mesquite a short distance from the ranch house and close to a mixed grove of willows and cottonwoods. Hundreds of the Western Kingbirds were nesting in this grove, which was quite extensive, and in adjacent mesquites. All the other small species previously mentioned were found here. Also the Desert Sparrow (*Amphispiza bilineata deserticola*) and Killedeer (*Oryzochus vociferus*).

At four o'clock the next morning the Kingbirds began calling, and before it was light so thoroughly awakened us that we got up and prepared our breakfasts. Five-thirty, with the sun just peeping over the Whetstone Mountains to the east, found us on the road. From here we climbed a long, easy grade over the Black Horse mountains and started down the other side, passing through Rosemont with its deserted buildings, and at last crossed the Southern Pacific Railroad at Vail. Here, I investigated numerous nests of the Palmer Thrasher (*Toxostoma curvirostre palmeri*) in the chollas along the roadside and collected one nice set

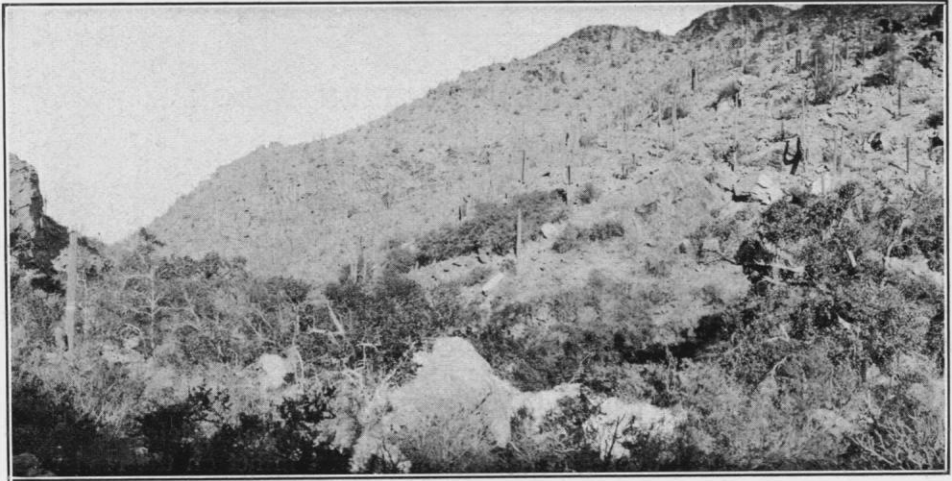


Fig. 13. LOOKING DOWN SABINO CANYON, IN THE WESTERN FOOTHILLS OF THE SANTA CATALINA MOUNTAINS, ARIZONA

of three eggs. Incubation was fresh. About noon we rolled into Tucson, having lunched a few miles out. We recorded eighty-eight miles to this point.

Having filled our reservoirs, we left for Sabino Canyon in the Santa Catalina mountains, northeast of Tucson. Rough roads and heavy sands were met with most of the way. Passing through deserted Fort Lowell, I wondered in which of the old ruins Major Bendire had made his home. We crossed the Rillito wash and were soon among the giant cactus. Some Western Martins (*Progne subis hesperia*) were seen hovering about one and investigating its various nesting holes.

Boulders and a high center required some road work, but with pick and shovel we removed them and were not long delayed. Three p. m. found us in Sabino Canyon, fourteen miles from Tucson and at the "head of navigation" for all vehicles. There were numerous Sunday picnic parties about, but by six o'clock they had all gone and we were left alone. I had spent the intervening hours reconnoitering up the canyon, looking for Broad-billed Hummers (*Cyan-*

thus latirostris). Males were quite numerous but I saw only one female. Arizona Hooded Orioles (*Icterus cucullatus nelsoni*) were nesting in large numbers. I also found a nest full of young Arizona Woodpeckers (*Dryobates arizonae*) old enough to leave the nest when I climbed up. The nest was forty feet up in a dead branch of a small cottonwood. The parents were gathering food from the giant cactus with which the sides of the canyon were thickly studded.

As soon as it began to grow dark, the whimpering calls of Elf Owls (*Micro-pallas whitneyi*) came from every side. Two alighted in a mesquite, almost within reach of our hands as we lay beneath it. They were not in the least afraid of us though we talked and moved quite freely. From high up on the canyon's rim came the "whoo-whoo" of a Western Horned Owl, and we could see it silhouetted against the sky as it flew from one rock to another. The owls all ceased calling shortly after it became real dark, and the canyon was in utter silence. The cessation of the calling was so abrupt that we could almost feel the silence.

While getting breakfast the next morning I heard a Plumbeous Gnatcatcher (*Polioptila plumbea*) calling, and after a few minutes search found its partially completed nest in a small palo verde. The nest was about three feet from the ground. Both birds were present but the female only was building.

We spent the balance of the morning looking for Broad-billed Hummers' nests but were unsuccessful. One female was seen but was too swift and shy for us to locate her nest. Judging from her actions she had one near by, as she resented the intrusion of a Black Phoebe (*Sayornis nigricans*) and actually drove it away. Several pairs of Verdins (*Auriparus flaviceps*) were building in bushes along the sides of the canyon, and two male Arizona Cardinals (*Cardinalis c. superbus*) scolded us, but we could not locate their nests nor see the females. A pair of Ravens (*Corvus corax sinuatus*) were seen feeding their young in a nest placed in a small cave near the top of a low cliff. Nests of Arizona Hooded

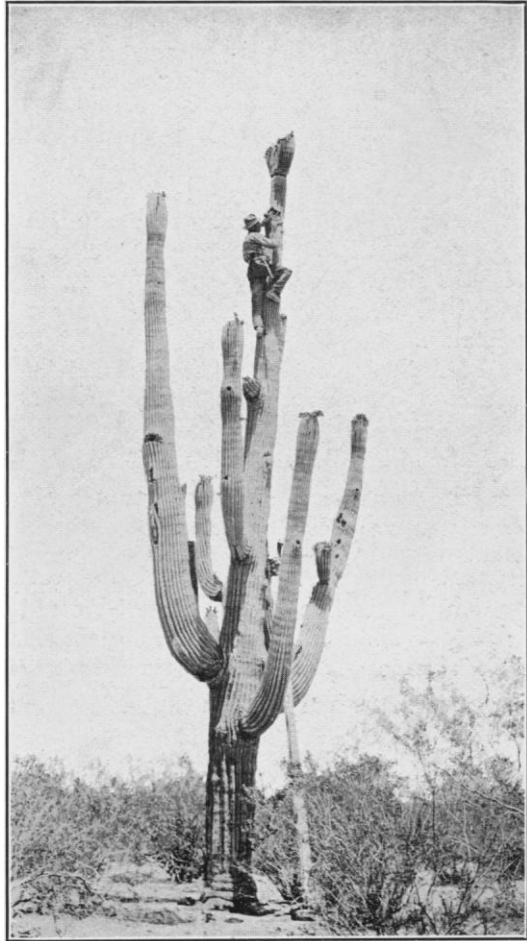


Fig. 14. CUTTING INTO THE NEST HOLE OF A GILA WOODPECKER. THE LEFT HAND BRANCH HELD AN ELF OWL'S NEST

Orioles were everywhere, and contained variously fresh or incubated eggs or young just hatched. Several pairs of Rock Wrens (*Salpinctes obsoletus*) were present, and a pair of Canyon Wrens (*Catherpes mexicanus conspersus*) were feeding a family of full grown young.

Discouraged by our poor luck, we worked back down the canyon, going some distance below our camping place. A nest full of young Black Phoebe was found on a ledge under a projecting boulder. Several White-throated Swifts (*Aeronautes melanoleucus*) were skimming a pool of water. Otherwise the results were a counterpart of our experience up the canyon. We investigated several giant cactuses without finding anything except a family of young Gila Woodpeckers (*Centurus uropygialis*). There were three young fully grown.

Returning to the machine, we lunched, loaded our dunnage, and started toward Tucson. We stopped where the Martins had been seen but there were no signs of nests. By using considerable care I was able to climb about a dozen of the largest giants. Three Elf Owls were found on their nests and one set of three incubated eggs secured. The other two nests contained newly hatched young and piped eggs. Chollas of several varieties were present, and we found several nests of Palmer Thrasher. One set of four eggs was secured, a very unusual number. I have found but one other set of four, taken in the Huachuca Mountains.

We walked about a mile from this point and came to the wash from Sabino Canyon. Sycamores and cottonwood with a few willows and ash trees formed the fringe along it, but bird life was very scarce. I found a House Finch's nest built in an old Bullock Oriole's nest. It contained five fresh eggs. Four is the usual set in this section, though five is not an uncommon number. Returning to the machine from here, we continued on into Tucson, and picked up our ladder which I had ordered. It was a light affair sixteen feet long and was readily carried alongside over the fenders.

Since it was late by this time, we could make but a short run a few miles east of town and camp. Darkness overtook us before we finished supper and had the beds made down. Texas Nighthawks (*Chordeiles a. texensis*) were quite numerous and darted back and forth close to our heads. The growth was principally chollas and greasewood, with some small mesquite and a few palo verde. Bendire Thrashers (*Toxostoma bendirei*), Palmer Thrashers, Plumbeous Gnatcatchers, Cactus Wrens (*Heleodytes brunneicapillus couesi*) and Road-runners (*Geococcyx californianus*) constituted the bird life in that immediate section. Nests of young of all the species mentioned were found in a few minutes walk the next morning. We secured one set of fresh eggs of Bendire Thrasher and found several nests of the same ready for eggs. It seemed to be just between the time for the first and second broods for them. Many young of the first brood were seen running around among the chollas.

We did not tarry long here but pulled out for the mesquite forest eleven miles south of the city. The newly completed road was inches deep with dust, and the old road full of chuck holes, so going was slow. Arriving at the first sahuaro, scarred with the assaults of former years, I shouldered the ladder and George carried the other traps. In a few moments I was among the arms of my old antagonist (they always seem such to me), and the first hole cut into gave me a fine set of three Elf Owl. I lifted the bird from the nest and tossed her into the air. She dropped like a stone nearly to the ground and then spread her wings and flew off into the underbrush. Incubation was well begun. Carrying my

ladder to the next giant I examined the holes in the arms first and found three young Gilded Flickers (*Colaptes chrysoides*) in one of them. One after another they left the nest and flew away, getting gradually closer to the ground and finally alighting thereon at a distance of a hundred yards or more. One tried to alight on the back of our auto seat but it was too slippery and he fell to the ground. They seemed remarkably strong on the wing for their first flight.

The next sahuaro held a family of young Mexican Screech Owls (*Otus asio cineraceus*). There were three of them, all well feathered but with considerable down still clinging to them. One parent was in another hole in the same cactus. A set of Ash-throated Flycatchers was found in the same cactus. It was in a hole in an arm and consisted of four eggs with incubation well advanced. The nest was a vile mess of mixed furs, full of vermin, which I unceremoniously dumped. Other giants yielded two more sets of Elf Owl, three each, and several nests of young Gilded Flickers. One nest of four young Gila Woodpeckers was found and several young of this species were seen flying about. We spent the whole

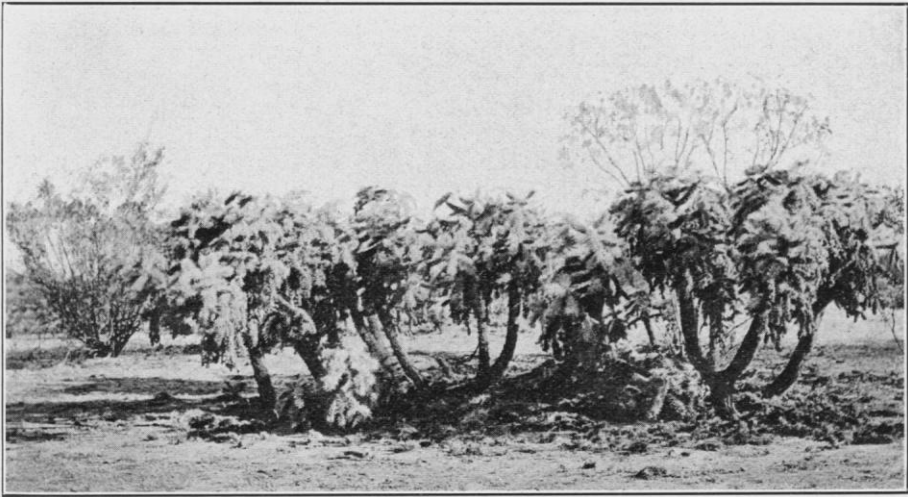


Fig. 15. CLUMPS OF CHOLLA CACTUS; THE FAVORITE NESTING SITE OF PALMER AND BENDIRE THRASHERS

day in this fashion, skirting along the edge of the mesquite forest for a distance of some six miles. That night we camped close to where we took the first owl's nest, intending to go into the forest the next day.

Starting at the break of the morning of the 24th we stopped for water at a Mexican ranch and found on inquiry that we would have to run back as far as Dos Reales, an Indian village close to San Xavier Mission. The name of this village, translated into the English language, means "Two Bits," or twenty-five cents. It hardly seemed worth that sum.

The mesquite forest is on an Indian reservation, which accounts for the fact that it is not all cut off yet. The mesquite trees are wonders of their kind. There were some whose trunks, at the base, scaled over four feet in diameter. The large bases branched a few feet from the ground into several limbs fifteen or eighteen inches in diameter. The tallest reached a height of over sixty feet. The undergrowth is a thick mass of hackberry, etc., with various thorny bushes growing close to the ground. Meandering wood roads lead in every direction and one can

never be quite sure he is on the right one. Into this tangled wildwood we drove some four miles from the village. Then leaving our vehicle, we began to work across the forest, being careful to work back in the direction we had come from so as to have our auto tracks to follow when we were ready to return.

Least Vireo (*Vireo belli pusillus*), Arizona Pyrrhuloxia (*Pyrrhuloxia sinuata*), Western Mockingbird (*Mimus polyglottos leucopterus*), Bullock Oriole (*Icterus bullocki*), Lucy Warbler (*Vermivora luciae*), Vermilion Flycatcher (*Pyrocephalus r. mexicanus*), Gambel Partridge (*Lophortyx gambeli*), Verdin (*Auriparus flaviceps*), Abert Towhee (*Pipilo aberti*), Long-tailed Chat (*Icteria virens longicauda*) and Phainopepla (*Phainopepla nitens*) were present in swarms. White-winged Doves outnumbered any two of those mentioned. Mourning Dove, Mexican Ground Dove, Ash-throated Flycatcher, and Arizona Hooded Oriole were very numerous.



Fig. 16. NEST OF PALMER THRASHER IN CHOLLA CACTUS

Cooper Tanager (*Piranga rubra cooperi*) and Baird Wren (*Thryomanes bewickii leucogaster*) were also common and their cheery songs were very much in evidence. Most of these species had young. Phainopeplas and Cooper Tanagers were building.

The bird we were looking for was conspicuous by its absence. That was the Mexican Goshawk (*Asturina plagiata*). We walked miles back and forth but did not find a single set, and saw but one bird. A few Cooper Hawks (*Accipiter cooperi*) were seen, but none of their nests were found, either.

No sets worth taking were found. Once, as I stooped under a bush, a little Mexican Ground Dove dropped at my feet and fluttered off. I looked back and there was one young one in a nest against which I had nearly butted my head. Numerous nests of young of the three doves mentioned were examined with the purpose of confirming an observation I had made as to the position of the young

in the nest. The young Mourning Doves always face in the same direction. Those of the White-winged and Mexican Ground Doves always face in opposite directions. It would be interesting to know what position the young of the Inca Dove have in the nest. As I have figured it out, they should both face in the same direction like the Mourning Dove, not to keep the ratio even but because in many respects they remind me very much of the latter. I have never found them nesting and consequently have no data to refer to.

Leaving the forest at about four p. m., a frail bridge over the Santa Cruz River nearly precipitated us into its muddy bottom. Mentioning this reminds me of an interesting phenomenon I have observed in connection with the above named river. Going in we crossed from the left bank to the right and followed a level road for several miles. While walking we found ourselves on the left bank again without having recrossed the river. It proved quite a puzzle to me until I discovered that it disappeared underground and reappeared further down in the shape of springs.

On leaving the forest we stopped to look among some giant cactuses which covered a small hill, for the nest of a pair of Arizona Crested Flycatcher (*Myi-*

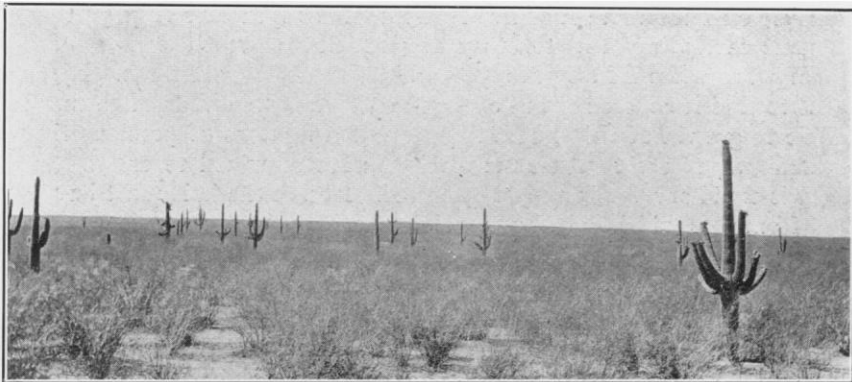


Fig. 17. TYPICAL ELF OWL COUNTRY NEAR TUCSON. FLAT MESA, COVERED WITH CREOSOTE BUSHES, AND WITH SCATTERED CLUMPS OF GIANT CACTUS

archus mexicanus magister). They did not seem to have a nest and as I knew it was a little early for them we did not spend much time here, but pushed on back toward Tucson. A short distance from the village of Dos Reales I saw some Western Martins hovering around a large branching sahuaro, so we delayed our departure and went over to them. I examined all the holes carefully, but nest building had not yet begun. However, I secured a nice set of four Gilded Flicker in which incubation had started. I also found a completed nest of Arizona Crested Flycatcher but no eggs. The presence of a snake skin in the nest was of itself sufficient to distinguish this nest from that of an Ash-throat. The birds, also, were present.

Continuing on to Tucson we went through the town and about eight miles farther to the east. Here we camped just in time to get settled before it was too dark to see. Next morning we pushed on a few miles to the Rillito, stopping to look at some giant cactus. A nice set of four Elf Owl eggs was our first reward. Incubation was far advanced, and as I climbed up my ladder the female peeked out at me and snapped her mandibles. She retreated as I got closer

and was on the eggs when I felt in the hole. They seem to exhibit this uneasiness only when the eggs are highly incubated or when there are newly hatched young, and not very frequently even then. When there are no eggs and both birds of the pair are in the nest hole, one is likely to crawl up to the entrance and look out at any intruder. At such times they do not snap their mandibles and, in retreating, gradually fade out of sight with a movement so slow as to be scarcely perceptible.

As I carried my ladder to the next cactus, a Gambel Partridge flushed from under a small mesquite, and glancing that way I saw a nest full of eggs in a slight hollow at the foot of the mesquite and without any protecting cover. The twelve eggs it contained were fresh. One of them had two large claw holes in it and was partially dried up. The bird could be heard calling near by while I was engaged in photographing the nest and eggs.

Climbing the next cactus I cut into a hole around which two Gila Woodpeckers were making a big fuss. There was nothing in it. I think it is their habit to dig fresh holes after raising their brood of young. These fresh holes are not occupied that year but are made use of the next year when the sap has had a chance to dry and form the hard lining which coats the inside of all the cavities. I have found but one fresh hole occupied as a nest.

Farther on I found a set of five Ash-throated Flycatcher eggs just hatching. In the same cactus was a nest with young Mexican Screech Owls, how many I do not know, as when I first put my hand into the hole one bit me. I jerked my hand out to find it covered with bedbugs of all sizes, hundreds of them. How I did hustle to get rid of them, spending some ten minutes of precious time carefully examining to see that not the smallest mite remained to crawl. How the young owls could survive is a mystery to me. I think the hole must have become infected from bats which quite commonly roost in such places.

The next giant had a Cactus Wren (*Heleodytes brunneicapillus couesi*) nest in it. A large open cavity had been stuffed full of the usual mass of grass and feathers which constitutes this bird's nest. There were three well incubated eggs of an unusually dark type. It looked very odd to see this nest in such an unusual situation. There were plenty of normal nesting sites all around, too, and that such a one should be selected would probably have to be laid to the eccentricity of the individual bird.

Crossing the Rillito we went a couple of miles and examined several very tall sahuaros and took another set of four Elf Owl, with incubation far advanced. We also found young of Mexican Screech Owl, Gilded Flicker and Gila Woodpecker.

As we were intending to start for Tombstone that day we could go no farther. Getting back to Tucson, we replenished our oil and gasoline and about ten A. M. started on the homeward trail. A terrific, hot wind was blowing which made driving very unpleasant. The heat caused some tire trouble so we did not stop for any collecting and about five o'clock reached the Empire Ranch again. Leaving here at six-thirty the next morning we stopped to look through some mesquites, and secured a set of badly incubated eggs of the Swainson Hawk (*Buteo swainsoni*), and one of almost fresh Western Redtail (*Buteo borealis calurus*). May 26 is a pretty late date for the latter to have eggs. Both these nests were about fifteen feet up in small mesquites.

In crossing a flat covered with sacaton grass I saw and heard several Meadowlarks (*Sturnella neglecta*), and while watching them heard the unmistakable notes of a Grasshopper Sparrow (*Ammodramus savannarum bimacu-*

latus). I spent some time looking for the nests of the latter but was not successful. There were, apparently, two pairs of them about one hundred yards apart. The occurrence of this bird at this season was very much of a surprise to me. There were numerous Killdeer along a small stream flowing from a spring in this flat, and I walked up so quietly I almost stepped on one before she saw me and left her nest and three pretty eggs. Several nests of White-necked Raven about ready for eggs were found in the mesquites, but we were a little early for eggs. Resuming our journey we crossed through Mescal gap where we saw Scott Orioles (*Icterus parisorum*) and Western Lark Sparrows (*Chondestes grammacus strigatus*), but as we were in a hurry to reach the San Pedro river at Fairbanks for a little collecting we did not stop to look for nests. We arrived



Fig. 18. NEST OF GAMBEL QUAIL, AT THE FOOT OF A MESQUITE BUSH

there about one o'clock, and after lunch put in the balance of the day along the banks of the river. In a small mixed grove of cottonwoods and willows I found two nests of Traill Flycatcher (*Empidonax trailli*) with three fresh eggs in each. Also collected a set of four Lucy Warbler eggs from a hole in a low dead willow stump. Incubation was far advanced. The female was flushed but did not make much of a demonstration and disappeared entirely before I had finished taking a photograph of the nesting site.

Sonora Yellow Warblers were quite numerous and I took one set of three eggs from a nest fifteen feet up in a slender willow. Two nests of young Costa Hummers (*Calypte costae*) were also found here. One held newly hatched young and the other, young about grown.

Crossing the river we spent some time trying to locate the nest of a Yellow-throat (*Geothlypis trichas occidentalis*) but without success. This bird was present all along the irrigating ditches, but the nests were so well hidden I could not locate a single one. Western Blue Grosbeaks (*Guiraca caerulea lazula*) were seen in several places among the willows which lined the irrigating ditches, but it was too early for their nests. Sets of Desert Song Sparrow (*Melospiza melodia fallax*) with four fresh eggs, in a low bush, and Bullock Oriole, five eggs, incubation begun, from a nest hung at the tip of a drooping willow branch, were our next finds.

As I crowded my way through a dense thicket of small willows there was a flutter of wings, and right under my hand was a nest of Mexican Ground Dove with its two pretty eggs, nearly fresh. I had just finished packing them and

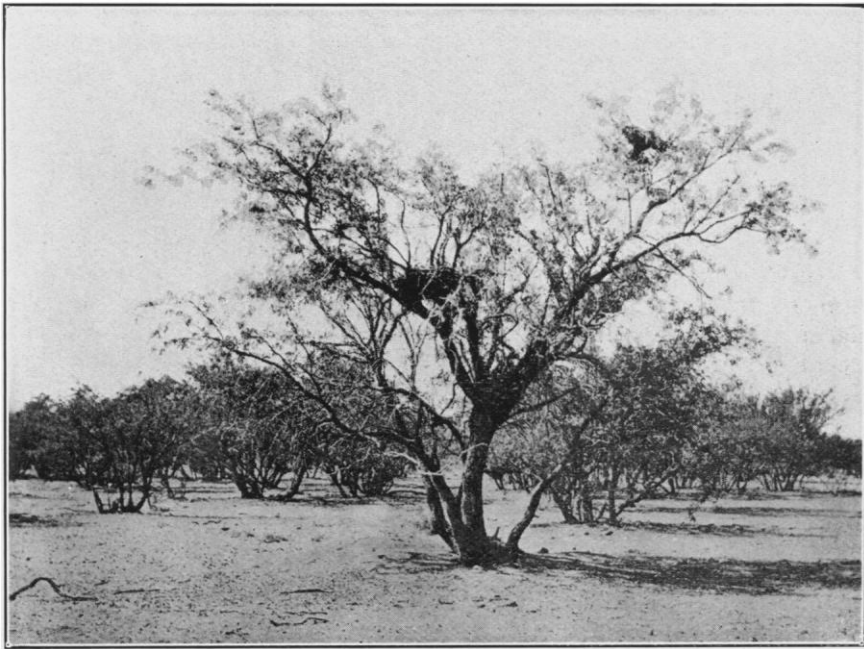


Fig. 19. NESTS OF SWAINSON HAWK IN MESQUITE. THE UPPERMOST IS THE OCCUPIED NEST

started on, when a single "quak" overhead made me look up just in time to see an Anthony Green Heron (*Butorides virescens anthonyi*) leave its nest twenty feet up, in a willow so slender it would scarcely hold my weight as I climbed and collected the set of five fresh eggs. While packing the eggs, I heard a hummer, and there, close by, was a female Costa feeding two young nearly grown.

It was getting late, so we started back toward our machine. On the way, George was delighted to find a nest of Costa Hummer with two fresh eggs in it. The nest was placed five feet up on a drooping branch of a willow. I located a nest of Western Blue Grosbeak almost completed. Vermilion Flycatchers were numerous but nearly all of them had young. Long-tailed Chats and Sonora Redwings (*Agelaius phoeniceus sonoriensis*) were common, but only partial sets of either were found. Abert Towhee was just beginning to nest also. As we

walked along under some tall cottonwoods we flushed a flock of Turkey Buzzards (*Cathartes aura septentrionalis*) which made them their roosting place. There were close to a hundred of them, and the air was black with their broad wings as they swung round and round over the tops of the trees.

We reached the machine just at dusk and after a hasty supper, loaded our baggage and started on the last ten miles of our trip, arriving in Tombstone at nine o'clock.

Our speedometer registered three hundred and seventy-five miles for the trip. While not up to my expectations as a collecting trip, it had been successful enough to be satisfactory, with variety enough to make it thoroughly enjoyable.

PASSERELLA STEPHENSI IN MARIN COUNTY, CALIFORNIA

By JOSEPH MAILLIARD

WITH THREE PHOTOS

UNTIL recently there has been no sufficiently large series of *Passerella* gotten together in California to permit of intelligent comparison of the various individuals a collector might obtain. This lack of material for comparison has left him in the dark as to subspecific determinations. But now, under the care of the Museum of Vertebrate Zoology, University of California, at Berkeley, there is a fine working series consisting of specimens belonging to the museum itself, and to the Grinnell, Swarth and Morcom collections. These contain specimens of *Passerella* taken in many places on the Pacific Coast, from Southern California to as far north as Kotzebue Sound, Alaska, many of them—notably the northern forms and *P. stephensi*—having been taken on their breeding grounds either actually during the breeding season or before the young were old enough to migrate.

Realizing this to be our opportunity, it seemed time for us to undertake the difficult task of identifying the various individuals of this group in our own collection (collection of J. & J. W. Mailliard, San Francisco), the majority of which were migrants or winter residents. Mr. Joseph Grinnell of the Museum of Vertebrate Zoology gave us most generous assistance in this work, and as he had personally collected many breeding specimens his assistance was especially valuable.

It happens that in very cold winters on the Rancho San Geronimo, Marin County, California, we have sometimes found, in a sort of rocky mesa covered with dwarfed cypress, ceanothus and low, scrubby manzanita bushes, on the top of the range, a form of *Passerella* that differed from the commonly found winter forms in having a very heavy bill and being of a much lighter and more grayish coloration. C. A. Allen of San Geronimo (postoffice formerly known as *Nicasio*) took quite a few of these in times past and sold them to eastern collectors as *P. i. megarhyncha*—Thick-billed Sparrow—and as far as we know they have always been so accepted. In fact this form is mentioned by the writer in "Land Birds of Marin County, Cal." (CONDOR, II, May, 1900, p. 62), under *megarhyncha* as "casual visitant," with no comment since, and is now in the Third Edition of the A. O. U. Check-List of North American Birds as such. There should be